

**Remarks/Arguments**

**I. Status of the Claims:**

Claims 14 and 112 are canceled herein. Applicant reserves the right to claim the subject matter of the canceled claims in continuing applications. Claims 2–13, 77–79, 108–111, and 113–117 are pending in the application.

**II. Rejections Under 35 U.S.C. § 102:**

Claims 2-14, 77-79 and 108-117 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Short *et al.* (U.S. Patent Nos. 5,510,099 and 5,955,056) hereinafter “Short.” Applicant respectfully disagrees but has amended claims to facilitate prosecution.

Applicant has amended independent claims 2, 3, 77, 79 and 108 to recite that *E. coli* are strain W. Support for these amendments can be found, *inter alia*, in paragraphs [0008], [0027] and [0046] of the specification. Under 35 USC § 102, a claim can only be anticipated if every element in the claim is expressly or inherently disclosed in a single prior art reference. *See Kalman v. Kimberly Clark Corp.*, 713 F.2d 760, 771 (Fed. Cir. 1983), *cert. denied*, 465 U.S. 1026 (1984); *see also PPG Industries, Inc. v. Guardian Industries Corp.*, 75 F.3d 1558, 1566 (Fed. Cir. 1996) (“[t]o anticipate a claim, a reference must disclose every element of the challenged claim and enable one skilled in the art to make the anticipating subject matter”). Short fails to meet at least this burden.

As noted by the Examiner, Short discloses an *E. coli* organism that is phage free and deficient in one or more restriction systems. However, Short discloses the use of *E. coli* K12 strain not the strain W recited in the present claims. For example see column 16, lines 26-31 of the ‘099 patent and column 16, lines 11-16 of the ‘056 patent. Further, Short does not disclose the growth rate of the SCS-8 *E. coli* strain compared to any other strain. Applicant however, has

disclosed the growth rate of *E.coli* strain W cells compared to other *E. coli* strains. For example see Examples 16-18 in the specification. In particular Example 17, where growth of *E. coli* W and *E. coli* K12 is compared.

In light of the above, Applicant submits that Short fails to teach all of the combinations of features set forth in claims 2-13, 77-79, 108-111, and 113-117 and respectfully requests that the rejections thereof under 35 USC §102(b) be removed.

### **III. Rejections Under 35 U.S.C. § 112, first paragraph:**

Claims 2-14, 77-79 and 108-117 stand rejected under 35 U.S.C. § 112, first paragraph for failing to comply with the written description requirement. (Office Action, page 7.) Applicant respectfully disagrees.

To satisfy the written description requirement, a patent specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention. See, e.g., *Moba, B.V. v. Diamond Automation, Inc.*, 325 F.3d 1306, 1319, 66 USPQ2d 1429, 1438 (Fed. Cir. 2003); *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d at 1563, 19 USPQ2d at 1116.

Applicant has demonstrated possession of the claimed invention in part by an actual reduction to practice. See Example 19 where the preparation of BRL 3781 and BRL 3784 is described. These cells have been deposited under terms of the Budapest Treaty in the Agricultural Research Service Culture Collection as NRRL No. B-30143 and B-30144 respectively.

The claimed invention contains specific structural features such as lack of bacteriophage or the presence of specific genotypes such as *recA*<sup>-</sup> and *endA*<sup>-</sup>. The claimed invention also has a specific property, a faster growth rate. Methods of making the claimed invention are provided throughout the Examples section of the specification. Applicant has also provided methods for comparing the growth rate of cells of the claimed invention with the growth of reference

microorganisms such as *E. coli* MM294. (See paragraphs [0047]-[0049] and Example 26.) Methods are also provided for introducing a *endA*<sup>-</sup> mutation (Example 2) and *recA*<sup>-</sup> mutation (Example 3). Multiple methods and actual examples of removing or curing bacteriophage from *E. coli* W strains are provided in Examples 4, 5, 9, 14, 19, 21, and 23-25. The level of skill in the art is high and the above described methods are well within the level skill of those practicing the art. Given the disclosure, one of skill in the art would be able to prepare organisms within the scope of the claims with a high probability of success or determine if a particular organism fell within the scope of the claims without undue experimentation.

In view of the above, Applicant respectfully requests reconsideration and withdrawal of the rejection under 35 U.S.C. § 112, first paragraph.

**IV. Claim Objections:**

Claim 8 is objected to for a typographical error. Applicant thanks the Examiner for pointing out this error and has amended the claim.

**CONCLUSION**

Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Reply is respectfully requested.

Respectfully submitted,

/Peter G. Foiles/

Peter G. Foiles  
Registration No. 46,477  
Agent for Applicant  
(240) 379-4173

**Life Technologies Corp.**  
Intellectual Property Department

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